

ABSTRACT

An engine is disclosed. According to one embodiment of the present invention, the engine comprises a compressor, a high pressure water separator, a regenerator of latent and sensible heat, two combustors, two expanders, a regenerative catalytic reactor, a steam accumulator, a gasses ejector, a water condenser, a low pressure water separator, a water pump and water cooler. The compressor compresses ambient air and pumping water. The regenerator heating the dry compressed air and the first combustor produces exhaust gasses. The second expander receives the exhaust gases from the first combustor and steam generated by internal cooling, and expands the exhaust mixture of steam and gasses. The compressor may be a water-flooded twin screws machine or a water-flooded scroll apparatus. The expanders may be a dry twin screws machine or a dry scroll apparatus.